Does Milk "Make Mucus"?*

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WHEN dietary instructions are given patients, the physician is not infrequently faced with this statement: "Doctor, I haven't been drinking milk because it makes mucus in my throat."

A few years ago, to test the extent of this feeling among patients I asked 200 consecutive adult patients this question: "Does milk make mucus for you?" The answer was "Yes" in 25 per cent of the cases.

The belief is widespread that milk is the cause of the disturbing postnasal mucus. Is there any factual basis for such a belief? Are patients mistaken?

As is well known, a thin layer of mucus is normally present as a protective film for the nose and throat, and causes no sensation. However, when the mucus becomes excessive or muco-pus develops, then the patient is annoyed.

Also, as has been pointed out by Proetz,[2] the patient complains of discharge in the nasopharynx if the mucus becomes abnormally viscous, abnormally fluid, irritating, odorous, or obstructive.

Proetz listed 18 different agents he considered capable of causing the "postnasal drip" but did not mention milk as a possible factor. Yet milk is what many patients believe is responsible, and consequently many of them omit milk from the diet.

Cultists and a few reputable physicians take milk away from patients because they, too, believe that milk "makes mucus." Milk should not be taken from patients without good reason because, in the words of Lester:[1] "Milk is the most important of all foods. . . . The amount of milk consumed by the adult has an important bearing on the health of the community and on its wealth."

It seemed important, therefore, to make nose and throat examinations of patients drinking milk and those not doing so to see which group had the most mucus in the throats; and at the same time to obtain statements from the patients of each group as to the presence or absence of disturbance from postnasal mucus.

PROCEDURE FOR COLLECTING DATA

Histories were obtained from 1047 consecutive adult eye, ear, nose, and throat patients observed during the past three years.

Information was recorded at the first visit relative to the number of glasses of milk consumed each week, whether the patient was or was not ordinarily bothered with mucus in the throat, or had a cold, sore throat, sinus trouble, or history of allergic disturbances. Of the 1047 patients, 400 were excluded because of active upper respiratory disease. This left 647 patients with normal appearing noses and throats from whom the data were obtained, largely patients with eye disease.

* Data from 647 eye, ear, nose and throat patients.

TABLE 1.—*Reports from 647 Patients as to Complaints of Postnasal Mucus*

Milk, glasses consumed per week	Patients in group	Complaint of mucus Cases Number	Per Cent	Not bothered with mucus Cases Number	Per Cent
0-5	310	141	45	169	54
6-9	94	47	50	47	50
10 or more	337	155	46	182	54

The 647 patients were divided into three groups according to their habits of drinking milk; for each group the individual complaint of mucus is summarized in Table 1.

It is thus evident that the percentage of persons who complain of postnasal mucus is practically the same among those who drink milk as among those who do not.

It was further observed that of the scores of non-milk drinking patients who began to drink milk, none made a voluntary complaint of mucus, and there was no tendency for more mucus to be found in their throats on examination.

Among the 647 patients listed in Table 1 are 106 patients who gave a history of having had hives, hay fever or asthma. Table 2 lists the data from the records of this group and shows a similarity to the data in Table 1. The chief difference is that in the allergic group a slightly higher percentage of those who did not drink milk complained of mucus in the throat. (In this report we are dealing only with the histories, not with allergic tests and studies.)

TABLE 2.—*Reports from 106 Patients with History of Asthma, Hives, or Hay Fever as to Complaints of Postnasal Mucus*

Milk, glasses consumed per week	Patients in group	Complaint of mucus Cases Number	Per Cent	Not bothered with mucus Cases Number	Per Cent
0-5	45	29	64	16	36
6-9	18	12	66	6	34
10 or more	43	19	44	24	56

QUANTITY OF POSTNASAL MUCUS FOUND ON EXAMINATION

Nose and throat examinations were made on 157 patients with no history of colds or other upper respiratory disease to see if the milk drinking patients were actually secreting an increased quantity of mucus. Excess mucus was considered to be present if on the pharynx or in the nasopharynx an accumulation of mucus in excess of ½ inch in diameter or a string of mucus over 1 inch long was observed. In the nose any accumulation of mucus, excluding slender strings of "mucus bridges," was considered excess mucus. Table 3 reveals findings seeming to

TABLE 3.—*Findings from Examination of Nose and Throats of 157 Patients*

Milk, glasses consumed per week	Patients in group	Excess mucus found Cases Number	Per Cent	No excess mucus Cases Number	Per Cent
0-5	78	41	52	37	48
10 or more	79	40	50	39	50

establish that there is no difference in the prevalence of excess mucus between the milk drinking and non-milk drinking groups.

SUMMARY

Of 647 adult patients with apparently normal noses and throats, nearly one half complained of being bothered with postnasal mucus. The percentage of patients making this complaint was practically the same among those who drank milk as among those who did not drink milk. From nose and throat examinations it was found that the percentage of those patients with excess mucus was also practically the same among both milk drinking and non-milk drinking groups.

CONCLUSIONS

Reports from over 600 patients have indicated that milk is not the cause of annoying postnasal mucus. The cause of this common disturbance needs further investigation. Milk is too valuable a food to be omitted from the diet because of the popular belief that "milk makes mucus."

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REFERENCES

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2. Proetz, Arthur W.: Postnasal drip, the current nightmare, The Annals of Otology, Rhinology and Laryngology, LIV, 739 (Dec.), 1945.

A Further Study of Pneumonia in San Francisco, 1944-1946

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IT is the purpose of this study to supplement a previous survey of pneumonia in San Francisco in 1943-1944,[1] by reporting the patients observed on a medical service (University of California) for the two-year period from July 1944 to July 1946.

As in the earlier series, the patients comprised in the present study were drawn from lower economic groups, exhibited sub-optimal nutrition, and were not infrequently subject to acute and chronic alcoholism.

Again, no patients were chosen whose diagnosis of lobar pneumonia was not clear-cut, and none were selected whose infection was secondary to any other known disease process. All diagnoses of pneumonia were substantiated by a positive chest roentgenogram.

A total of 202 cases with pneumonia were seen. Of these, 172 were pneumococcal in origin; 27 were classed as primary atypical pneumonias; two were streptococcal; and one was due to the Friedlander B organism.

Our interest centers on the majority of the cases caused by the pneumococcus organism (85 per cent). One hundred and twenty-two of the cases of pneumococcus pneumonia (71 per cent) occurred in men, and 50 cases (29 per cent) in women. Twenty per cent of the women and 39.4 per cent of the men were over the age of 50. A comparison of age incidence with mortality is shown in Table 1.

Typeable pneumococci were isolated in 137 of the 172 cases (79.7 per cent). The remaining patients either died before adequate typing could be done or possessed pneumococci which would not type. Pneumococcus Type I produced the highest incidence, being responsible for 21.9 per cent of the typed cases. Type VII, with the highest incidence in 1943-44, was second, causing 14.6 per cent of the cases. Type III was the etiologic agent in 10.4 per cent, and Type IV in 7.3 per cent. The rest of the types were scattered diffusely throughout the remainder of the series.

TABLE 1.—*Comparison of Age Incidence with Mortality*

Age (years)	No. Cases	No. Deaths	% Mortality
Under 20	4	0	0.0
20-29	20	0	0.0
30-39	40	3	7.5
40-49	50	9	18.0
50-59	19	4	21.0
60-69	23	5	21.7
Over 69	16	5	31.2
All Cases	172	26	15.1

There was no correlation between the type of organism and seasonal incidence. Forty-two per cent of the cases occurred in the four-month period from December through March, the remaining months showing almost equal incidence.

An attempt has been made here to correlate vital factors on entry with mortality, and in some instances with length of hospital stay. The overall mortality of the patients with pneumococcus pneumonia was 15.1 per cent with an average hospital stay of 13.8 days.

Entry Temperature: In this study, those patients

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